

Natural Resources Review

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KENTUCKY DEPARTMENT FOR NATURAL RESOURCES

OUR MISSION: To improve the quality of life for all Kentuckians by protecting our land, air, and water resources; utilizing our natural resources in an environmentally conscientious manner; and creating efficient environmentally responsible ways of managing, conserving and sustaining our resources for future generations.



Photo: Emily Lawson
Division of Mine Permits
Story on Page 8



Commissioner's Corner

**By Carl E. Campbell, Commissioner
Department for Natural Resources**

Dear Colleagues,

This quarter, DNR continued its efforts to enhance environmental and public safety. Some notable examples follow.

The Division of Abandoned Mine Lands (AML) has been particularly active these last few months. Its mission is to reclaim and mitigate hazards resulting from coal mining prior to 1982. As of the end of September, their active projects included:

19 construction projects

Three Acid Mine Drainage (AMD) design projects

Eight enhancement rule projects

Eight waterline projects and 14 AML designs for projects

The cumulative investment in providing Kentuckians with potable water is now \$94.3 million for waterline improvements and has provided more than 13,400 households with a potable water supply in 24 counties.

The Division of Permitting and the Division of Mine Reclamation and Enforcement have joined forces to maximize watershed protection. The DMRE sampling teams will have completed two Cumulative Hydrologic Impact Assessment (CHIA) trend station sampling events by the end of October. The CHIA interns have entered over 120,000 baseline and discharge monitoring reports into SMIS, which are sorted into 354 coalfield watersheds. These watershed data sets are then utilized in each permit-specific CHIA. Analysis is currently under way for trend station data that includes such information as pH, selenium, conductivity, sulfates, total dissolved solids and 20 other analytes to determine impacts from mining and non-mining activities over time in each watershed.

The Office of Mine Safety and Licensing (OMSL) did an outstanding job this quarter inspecting mines, participating in mine rescue activities and ensuring mine safety. Unfortunately, four fatalities have occurred this year. OMSL continues to stress the importance of safe working habits and safe working conditions to reduce these accidents.

The Division of Forestry is ready for the fall fire season, which began Oct. 1 and ends Dec. 15. In addition to fighting wildland fires, the agency has attended workshops on oak dominated forests, wetland restoration and hosted a Hemlock Woolly Adelgid Symposium and sponsored the East Kentucky Woodland and Wildlife Workshop.

The Division of Oil and Gas continues its abandoned well plugging program. On the horizon is the Class II application with EPA for taking over primacy for these wells. From Sept. 21 –Oct. 5, the Division accomplished the following:

48 permits issued . . . 7 for horizontal wells

88 inspections performed

25 new bonds stored

111 gathering/flowline applications received

100 new violations issued

135 wells transferred

Thanks to all employees of the department for your dedication and hard work. You are truly making a difference.

2011 Commissioner's Awards for Excellence in Mine Reclamation

Future generations to enjoy results of the commitment of companies awarded in 2011

Davis Energy LLC

Johnson County surface mine



Left to right: Darrell Davis (Davis Energy), DNR Commissioner Carl Campbell, David Wright (Davis Energy), Rep. Hubert Collins, and Clyde Burchette (Davis Energy).

The reclamation work performed by Davis Energy, LLC (permit # 858-0221) has been exemplary in several ways. Rich topsoil is not always abundant and care must be taken to preserve all topsoil during mining efforts. On this permit, topsoil was carefully removed, stored and seeded to prevent loss. Davis Energy also faced the problem of an existing highwall from mining before the Surface Mining Control and Reclamation Act of 1977 became effective. The innovative treatment of this site placed much of the spoil against the highwall and compacted it to prevent instability and erosion. The topsoil was then used to ensure survival of planted material. The great attention given to reclamation resulted in land with gentle rolling hills and additional flat land with fewer steep slopes, which the land owner specified before mining began.

Patriot Coal Co. L.P.

Henderson County surface mine



Left to right: Glen Lacy (DMRE), Ellis Hogan (Patriot Coal), Charlie Troutman (DMRE), Rick Lam (Patriot Coal), Larry Millburg (Patriot Coal), Robert Yonts (DMRE), Danny Eizenga (DMRE).

The reclamation of permit # 851-0043 will provide both future benefits and economic advantages to its owners. Numerous stream enhancements will create a natural habitat for new herbaceous species and wildlife. Stream restoration in the general vicinity of the original streams were developed to closely approximate their pre-mining meandering nature. The post-mining land use approximates the pre-mining land use that includes 282.2 acres of forest land, 91.1 acres of crop land and 21.3 acres of fish and wildlife. The two approved exceptions are an acre of wetlands and two permanent ponds that will compliment the primary uses. As a result of Patriot Coal's reclamation efforts, post-mining land uses have been achieved in accordance with the landowner's wishes. The restoration completed at this site provides Henderson County with exceptional post-mining land uses and a sustainable future for the property.

2011 Commissioner's Awards for Excellence in Mine Reclamation

Future generations to enjoy results of the commitment of companies awarded in 2011

Lexington Coal LLC

Knott County surface mine



Left to right: Jeff Kelly (Lexington Coal), Curt Weittenhiller (Lexington Coal), Sen. Johnny Ray Turner, DNR Commissioner Carl Campbell, and Rick Phipps (Lexington Coal).

When the permit (#860-0415) located in Knott County near the community of Bearville was transferred to Lexington Coal Co. there were issues with a remaining highwall, hollowfills that were too steep with poor drainage and acidic soil that required extra lime to get vegetation to grow. Due to the company's diligence and commitment to reclamation, the site has been successfully reclaimed for fish and wildlife habitat in accordance with the landowner's wishes. In addition to the fish and wildlife post mining land use, there are open grassland/tree shrub areas that function as pasture land for cattle. It is worth mentioning that as a result of the company's reclamation efforts, this permit was featured in the November 2010 issue of Progressive Farmer describing how successful farming can be achieved on mined areas.

Sandlick Coal LLC

Martin County surface mine



Left to right: Harvey Henderson (Sandlick Coal), Billy Ratliff (DMRE), Kevin Hembree (DMRE), Jeff Dean (Sandlick Coal), Charles Hoskins (DMRE), Larry Gulley (DMRE), John Collins (U.S. Coal).

The area of greatest success and benefit for this mining operation by Sandlick Coal Co. LLC, has been controlling water runoff to prevent erosion and promoting stability of the backfill in this Harlan County mine near Coldiron. The company placed a rock drain at each area where a potential water flow crosses the backfill, effectively slowing the velocity of water and directing it through less erosive material until a natural drain was reached. This is not required at each drain, but the company concluded that prevention of rills and gullies will help alleviate the need for maintenance at a later date. An assortment of trees has been planted on the reclaimed land. In addition to the required species of loblolly pine, Eastern white pine, autumn olive and black locust, oaks were planted to aid wildlife and provide a valuable timber species. Exfoliating bark of the green ash, along with the oaks, will also provide the endangered Indiana Bat potential nesting sites.

2011 Commissioner's Awards for Excellence in Mine Reclamation

Future generations to enjoy results of the commitment of companies awarded in 2011

Premier Elkhorn Coal

Letcher and Pike County surface mine



Stacy Billtner (Premier Elkhorn), Greg Hayes (Premier Elkhorn), Jeff Cornett (Premier Elkhorn), DNR Commissioner Carl Campbell, Bob Zik (Teco Coal), Don Hall (Teco Coal), Charles Carlton (Pike County Deputy Judge Executive).

Premier Elkhorn established a diverse and permanent vegetative cover on the mined areas in accordance with regulatory requirements and their approved reclamation plan. They incorporated (exfoliating bark) species of trees with the protection for the Indiana Bat, which also provides cover for all types of wildlife.

Premier Elkhorn's willingness to work with the Appalachian Regional Reforestation Initiative (ARRI) to promote reforestation as a reclamation technique is well known within the industry. The company brought equipment back to a successfully reclaimed site to prepare soil to ARRI standards in order to optimize tree planting and growth. As a result of the company's reclamation efforts, the area now functions as cropland, pastureland and fish and wildlife habitat.

In presenting the award, Commissioner Campbell expressed his sincere appreciation for the company's outstanding reclamation work. "Your willingness to reforest an already reclaimed site at your own expense speaks volumes about your commitment to the community."



Premier Elkhorn's reclamation in Pike County



Lexington Coal's reclamation in Knott County



Patriot Coal's reclamation in Henderson County

Office of Mine Safety and Licensing Hosts Largest Mine Rescue Contest

More than 500 miners compete in safety readiness contest at Heritage Hall

The Kentucky Mine Rescue Contest was held Sept. 8-9 in conjunction with the Kentucky Mining Institutes' annual meeting at Heritage Hall in Lexington, Ky. The largest of its kind in the country, over 500 miners were in attendance at the two-day event, reflective of its longstanding success now spanning 40 years. Fifty-four mine rescue teams from 10 states came from as far as Colorado to compete in four categories: Mine Rescue, Pre-shift, Bench, and Mine Emergency Technician. The Kentucky Office of Mine Safety and Licensing designed the situations, or "problems," and also assisted in judging along with Mine Safety and Health Administration (MSHA) officials who were present to enforce the strict rules required by that agency. The winners demonstrated life-saving techniques that were designed to mimic real-life emergencies that may occur underground. Kentucky's own Webster County Coal (Dotiki) placed second in the nationwide competition in mine rescue, while James River Coal placed fourth. Black Mountain Resources placed first in the bench category with the BG4 breathing apparatus, while Five Star Mining and Patriot Coal placed first in other apparatuses.

Congratulations to all Kentucky winners and to all the participants who sharpened their skills while sharing the experiences that were vital to the success of their programs.



Various team members work to timely rescue the actors trapped or injured in the simulated underground mine emergency at Heritage Hall.

Division of Forestry Employee Recognized for Wildland Fire Prevention Efforts

By Lynn True

Kentucky Division of Forestry (KDF) Ranger Technician Ricky Parnell recently received the Robert E. Browning Jr. Award for his excellence in wildland fire prevention efforts. The U.S. Forest Service, Southern Region, selected Parnell for this honor based on his efforts to educate children and young adults about the dangers of forest fires. The award is given in honor of Robert E. Browning Jr., a South Carolina wildland firefighter who lost his life on Storm King Mountain, Colorado in 1994.

Parnell works in Metcalfe County and has been with KDF more than 11 years. Parnell fights forest fires, inspects timber harvest operations and conducts forest fire prevention education programs. He also works with residents, local officials and the media to help prevent and reduce the number of fires.

Leah MacSwords, KDF director and state forester, said, "Parnell is to be commended for his ability to relay such an important message to our communities. Educating our youth and encouraging them to become responsible citizens in protecting our forest resources could not be accomplished without the energetic work of field staff like Parnell."



South Central District Forester Brian Yager (left) congratulates Metcalfe County Forest Ranger Technician Ricky Parnell for receiving the Browning Award.

The Kentucky Division of Forestry is now on Facebook. Like our page and get the latest updates!

Don't Move Firewood

The Kentucky Division of Forestry (KDF) frequently uses YouTube and other sources of media to promote the messages of maintaining Kentucky's forests. One such message is meant to deter campers from moving firewood. Educating children and adults alike will help KDF in these efforts. To watch the video [click here](#).

The Asian Longhorn Beetle is threatening Kentucky's forests. This video is a reminder of how you can help prevent the spread. When you move firewood, you can accidentally move insects and diseases that kill trees. Many communities around the USA and Canada have seen this happen in their own backyards - what starts as a few dead trees can quickly turn into a whole neighborhood or forest riddled with dying trees. Don't move firewood, and keep the damage from these pests minimized. To watch the video [click here](#).

Division of Mine Permits takes Field trip to Western Kentucky

Permit reviewers observe and discuss surface mining and reclamation as they see the work first hand

Permit reviewers seldom get to see the work that is approved by their section and how it affects the workers, the environment and the economy in different areas of Kentucky. However, during this quarter, several reviewers had the opportunity to go in the field and observe companies mining and reclaiming land in western Kentucky. This two-day trip beginning on Aug. 10, 2011, was designed to educate the reviewers in real-life situations and see first hand what is going on in the industry they regulate. The group traveled to see surface mining in an area mostly known for its large underground mines.

The first stop was a site encompassing over 3,200 acres mined and reclaimed by Hopkins County Coal. The entourage of state vehicles drove through the area showing little to no signs that this area was previously a large strip mine. A couple of years ago, the area was virtually teeming with miners and vehicles working the surface mine, a prep plant, an augering area, slurry disposal site, gob disposal site, and a surface re-mine area. The reclamation of this job was impressive to the reviewers in light of the level of recent activity. The winding haul roads with dust flying, and moving equipment were hard to imagine in this quiet field. They discussed the various aspects of the permit including variances, underground injection lines, and the disposal of the coarse refuse. The reclamation plan called for restoration back to prime farmland, which requires over 4 feet of topsoil replaced over the entire area. Consensus of the group was that the company and DMRE inspectors did a great job on this site before heading to the next permit. The next site was quite different and had many features for the



By skillfully moving the hoist and dragropes, the bucket is controlled for various operations. Click [here](#) for more information on draglines. Dragline operators remove material from above the pit, while smaller machines remove the coal below. There are only four draglines in Kentucky, and they are all owned by Armstrong Coal. The two machines on this site move 15,000 tons of material per day.



reviewers to see. The Armstrong Coal site, which has 1,387 permitted acres, currently has only 300 acres disturbed. The site is a 7,000 foot pit opened in September 2010 that utilizes two large electric-powered draglines to expose the coal seam. Amazing to watch, draglines are among the largest machines built on land. Dragline systems consist of a large bucket suspended from a boom with wire cables and chains.



During the field trip, the group visited two more inactive sites and one actively producing site. Of particular interest was an Abandoned Mine Lands site reclaimed with spoil from another permitted area, which remediated a hazardous 2.5 mile open pit and a highwall 120 feet tall. The group also toured one of the 2011 Commissioner's Award for Reclamation sites, Patriot Coal. Partial reclamation is already in place on this active Henderson County mine. Reclamation to farmland will feature topsoil up to 15 feet thick.

Reviewer comments suggest that the trip provided much needed "on the ground" education that would be beneficial in their subsequent permit reviews.

Panel from Indonesia Visits Kentucky Department for Natural Resources

Representatives from other countries continue to learn from Kentucky mining regulators

Recent visitors to Kentucky's Office of Mine Safety and Licensing (OMSL) highlight the international respect that OMSL has attained a true East meets West endeavor to help other countries establish regulations and programs to minimize environmental and safety issues inherent in the production of coal.



The Indonesian delegation listens attentively as OMSL Executive Director Greene speaks.

Earlier this year, a Chinese delegation visited with agency officials, and on Sept. 7, 2011, representatives from Indonesia met with OMSL and surface mining officials. The Indonesian team consisted of a government official, an environmental representative, an industry representative and a legal consultant.

With the help of a translator, Executive Director Johnny Greene gave a presentation that thoroughly explained the mine licensing requirements and safety programs in his agency. John Hiett, keeper of underground mine maps, presented Kentucky's world-class mine mapping information system that geo-references and offers scanned mine map information to the public over the internet.

Paul Rothman, environmental scientist with the department gave an overview of federal and state laws, coal severance taxes, permitting and reclamation and bonding requirements with which all coal companies must comply. Remarks from the Indonesian group indicated that companies in their country do not reclaim the land for post-mining use as required in the United States. Communities in their country are becoming more aware of the health and environmental effects of improper mining practices and that regulations are much needed. Rothman went on to describe how reclamation can protect wildlife habitat.

The presentation also covered the concepts of reforestation, soil placement, geologic profiles and water chemistry.

The Indonesians requested copies of federal and state regulations, as well as additional information about the department's successful programs.

One representative inquired as to the existence of a program for "developing countries" to learn these techniques. While a formal program does not exist, department personnel offered help in getting such programs started in their country. Contact numbers and emails for both Kentucky and federal agencies were provided to the visitors.



Paul Rothman, environmental scientist for the Department for Natural Resources, answers questions posed by the foreign panel.

Conservation District Supervisor Inducted into the NACD Regional Hall of Fame

Kevin Jeffries recognized for distinguished service in area of Agriculture and Conservation

Kevin R. Jeffries, a member of the Oldham County Conservation District Board of Supervisors for the past 28 years, was recently inducted into the NACD Regional Hall of Fame. This award recognized Jeffries' service to his local conservation district, as well as the state and national conservation district associations.

His leadership in conservation and agricultural organizations has been exemplary. Jeffries has given his time, his talents and vast knowledge in a tireless effort to promote, and often times, defend the conservation district movement at the local, state and national levels. Jeffries is co-owner of Grand Meadow Farms, a 275-acre farm in Oldham County. He farms in partnership with his brother-in-law Mike McCall on the family farms as well as an additional 1,225 acres that they lease. The partnership raises corn, soybeans, wheat, hay, and beef cattle. In 1999, Jeffries and McCall were awarded the Master Conservationist Award in Oldham County for their outstanding conservation efforts and for completing 90 percent or more of the conservation practices identified in their conservation plan.

Because of his farming experience and knowledge of conservation, he has served on Kentucky's Agriculture Water Quality Authority since its creation in 1994. Jeffries works to ensure that needed technical and financial assistance is available to agricultural producers in Kentucky and assists them in addressing water quality problems associated with their farming operations.

Offices held in the Kentucky Association of Conservation Districts:

- Secretary-Treasurer 1996-2000
- Vice President 2000-2004
- President 2004-2009

Additional Organizations:

- Oldham County Planning Commission since 1997 and as chairman since 2007
- Chairman of his local Farm Bureau
- Served on the State Farm Bureau Board
- State Young Farmer Chairman



Kevin Jeffries was inducted into the NACD Southeast Regional Hall of Fame on Aug. 1, 2011 in Perdido Beach, Ala. He joined previous inductees from Kentucky – David Sawyer, Stanley Head, Harry Young, Billy Joe Miles, Larry Jeffries, James Lacy, Thomas Neal, Orville "Pete" Dotson and Pat Henderson.

Under Kevin's leadership as state association president, the association:

- received the first funding from NRCS to assist with district officials training
- worked to see legislation passed by the General Assembly to change audit limits for special purpose districts
- worked toward the expansion of the Soil and Water Conservation Commission's authority to make infrastructure loans to conservation districts to maintain local district offices.
- fought to protect base level funding for Direct Aid and State Cost Share Program.
- led in the discussions to protect districts' interests in the USDA office restructuring and continue the commitment to a conservation district or presence in all 120 counties of the Commonwealth.
- Jeffries was awarded the highest recognition by the state association in 2009 for his outstanding leadership of KACD during his service as a state officer by awarding him the "Conservation Person of the Year" Award.

Division of Oil and Gas Busy Inspecting and Plugging Well Sites

Inspectors achieve high numbers in regulating oil and gas wells in the Commonwealth

The Division of Oil and Gas field staff performs inspections of well sites and associated gathering line installations on crude oil and natural gas wells in Kentucky. Inspections are done to ensure the well operators are in compliance with KRS Chapter 353 and KAR Chapter 805. As of Sept. 19, 2011, over 8,900 inspections have been conducted across the state, even after a field staff reduction from 20 to 17 inspectors. Well inspections will be close to 12,000 by the end of the year along with over 1,000 gathering line inspections. The division has plugged over 50 abandoned wells to date under the state bid plugging program and contractors will plug 130 to 150 wells by year's end, further ensuring the safety of families and wildlife from old leaking wells.



Inspector Doug Hamilton performs an inspection on an abandoned oil well in Johnson County. The tablets carried by the inspectors enable uploading of documents to the central document repository at the end of the workday.



Inspector Burt Combs inspects a natural gas powered pumping unit on an oil well in Webster County.



Inspector Brandon Baker and Assistant Director Marvin Combs inspect a pump jack on a wellhead in Elliott County.



Dean Cornett reviews well records prior to cleaning out an improperly plugged well. This work is performed under the "state bid" plugging program, which is funded by an interest-bearing account generated by bond forfeitures.

Kentucky Fire Commission Memorial Service Recognizes Fallen Firefighters

By Lynn True

The Kentucky Fallen Firefighter Memorial Service held on Sept. 28, 2011, recognized Donald Lam Jr., a longtime Kentucky Division of Forestry (KDF) ranger and wildland firefighter who gave his life in the line of duty. Lam was one of eight Kentucky firefighters honored at the service with their names inscribed on the memorial wall. There are over 200 names engraved on the memorial.

Lam passed away on Feb. 17, 2011, after a long battle to overcome injuries sustained while fighting a forest fire in western Kentucky last September. Lam, 58, served as the forest ranger technician for Caldwell, Crittenden and Lyon counties and had assisted with fire suppression efforts on the local, state and national level for nearly 12 years. Lam is survived by his wife, Jeannie Swatzell Lam; a brother, Ronald Lam of Goreville; a stepson, Dusty Cooper; and a stepdaughter, Dakota Son.

The memorial service, an annual event which began in 2000, is sponsored by the Kentucky Firefighters Association, the Kentucky Professional Firefighters Association, Frankfort Fire and EMS, the Kentucky Association of Fire Chiefs and the Kentucky Fire Commission. This year's service included a Red Helmets Courage Motorcycle Ride with a wreath-laying ceremony, as well as honor guards and bagpipers from various fire departments across the state and the Kentucky Army National Guard Band.

The keynote speaker, Colmon Eldridge, executive assistant for the governor, spoke on behalf of the families and offered condolences and appreciation for the fallen firefighters and all those who serve the Commonwealth. Eldridge also sang the National Anthem and Precious Memories as a tribute to the families. During the ceremony, the families, friends and colleagues of each firefighter were presented with a commemorative plaque. KDF Director Leah MacSwords and KDF Assistant Director Steve Kull accepted the plaque on behalf of Lam's family.

Other colleagues attending the service included Larry Arnett, Deputy Commissioner for the Department for Natural Resources, and Tim Brown, KDF Field Branch Manager.



The Kentucky Fallen Firefighter Memorial is located at the entrance of Juniper Hill Park in Frankfort. The memorial rises to 19 feet with a stainless steel Maltese cross, the national symbol of firefighters. Two granite wings attach to the pedestal and are designated as the area for the names of Kentucky's fallen firefighters.



Donald Lam Jr is one of over 200 names now inscribed on the memorial wall.

Middlesboro Floodwaters Pose Challenges for Mine Reclamation and Enforcement

DMRE employees in south central Kentucky show true form after heavy downpours and flooding

By Leslie Stratton

Imagine arriving at work one morning to find your office flooded with 22 inches of water. What would you do? Gawk? Go home? Cry out in frustration? DMRE personnel rushed in, rolled up their sleeves and pant legs, put their boots on, and went to work.

Over two days in June, Middlesboro received 8.75 inches of rain, creating floodwaters that the area had not seen for 50 years. But to Kevin Hembree, environmental control manager, and his staff it was not anything they couldn't handle.

Kevin drove down East Cumberland Avenue at about 4:30 a.m. to find the office parking lot completely submerged in water. He and other inspectors, who were arriving to work that morning, began moving state vehicles as far out of the water as they could. They then waded inside to move all computers, files, and copiers out of the flood waters. The workers knew what equipment they had, where it was located, and what they needed to do to save it. They quickly made a game plan and knew that time was of the essence.



Aerial view of downtown Middlesboro

Cleanup began as the water began to subside. All vehicles had to be serviced and cleaned immediately. Inspectors ran to repair shops, swapping around vehicles, while maintaining their inspection duties.



Owen Michels, environmental inspector, wades through the high water in Middlesboro to report for work.

Despite the flooding, the office was closed only one day. When the water was too high inside, DMRE administrative staff set up a temporary regulatory agency out on the sidewalk to answer calls and conduct business—without electricity. The group worked with Frankfort staff to get needed equipment and furniture so that the office could be up and running as soon as possible. The chaos, unlike the rain, did not dampen their spirits.

The damage necessitated the removal of all carpet and drywall. Drywall was replaced, along with the installation of new electrical/networking outlets for the entire office.

The restorations on the building were finished in September and things are beginning to get back to normal. The office has new tile floors, new drywall and paint, a few new desks and chairs. However, the important feature that make this office unique has not changed - its people. They care about their work and are willing to pitch in and help out like family. The dedication and hard work of the men and women who work in this office are an example of extraordinary people doing extraordinary things.

Abandoned Mine Lands Continues Waterline installation in 22 Counties

325 Knott County residents will soon have municipal water through a federally funded program

The Kentucky Division of Abandoned Mine Lands (AML) has found that eligible pre-1982 mining has impacted much of the groundwater in the Arnolds Fork and Clear Creek areas including the side hollows of Arnolds Fork and Clear Creek Road, Cockrell Trace Fork, Hickory With Branch, Singleton Branch, and Chestnut Log Branches in Knott County, making the entire area eligible for AML waterline assistance.

The project will consist of approximately 16 miles of waterline including various road bores and stream crossings, providing 325 households with potable water. Additionally, it will include three hydro-pneumatic pump stations and various gate valves, and flush hydrants in designated locations.

The project, with a memorandum of agreement between the Knott County Water and Sewer District and the Energy and Environment Cabinet, totals \$2.8 million. Construction of the project will be entirely in Knott County and operated by the Knott County Water and Sewer District. G & W Construction of Morehead was awarded the contract with two low bids totaling \$2,087,210.50 and began construction in August.



Employees of G & W Construction of Morehead install the 16 miles of water line and water meters for residents to hook up to Knott County municipal water

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By Evan Satterwhite

[AML alleviates Drainage problems for Moore Street residents](#)
By Corey Ann Howard

[You can't judge a tree by its cover](#)
By Lynn True

[Conservation partnership developed amid disaster](#)
By Katrina Beckley and Pam Williams

[KDF firefighters combat wildfires across the south](#)
By Lynn True

[Landowners honored as Outstanding Forest Stewards](#)
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[Parnell awarded for wildland fire prevention efforts](#)
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[Seedling Nurseries: Growing trees for healthy and productive forests](#)

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Photo by
J. Hamon